

Miniaturized Waveguide Fourier Transform Spectrometer

Completed Technology Project (2011 - 2013)



Project Introduction

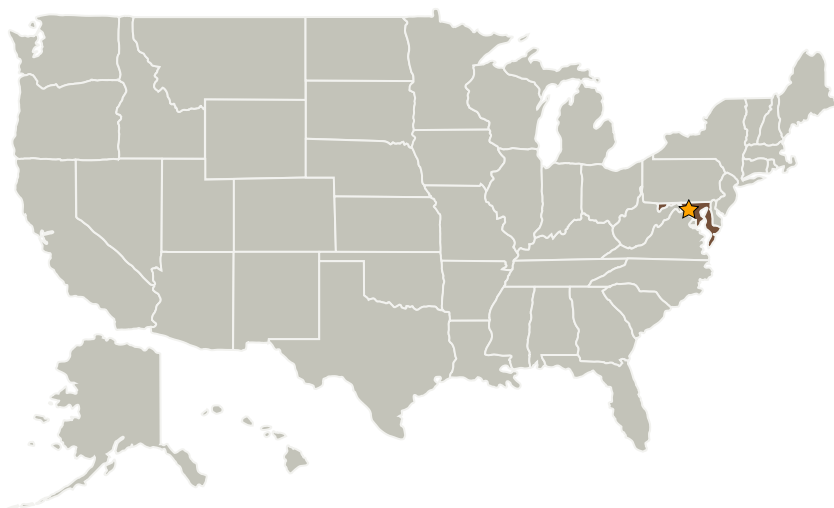
To demonstrate the efficacy of a spectrometer-on-chip system for in-situ and remote monitoring of planetary atmospheric and surface chemistry, physics, and surface mineralogy using spectral signatures.

To characterize the IR optical properties of the metal-coated hollow waveguide ensemble; configure the Hollow Waveguide FTS (HWFTS) chip in such a way that we maximize signal-to-noise; carry out full radiometric testing of this implementation and acquire spectra of standard gas cells.

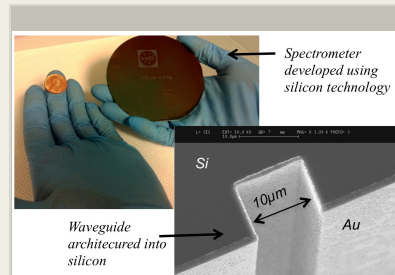
Anticipated Benefits

Objectives in the proposed effort are to methodically characterize the performance and limits of the concept to the degree that sufficient scientific and engineering background is obtained.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland



Project Image ROE FY12 CIF
214 PL Miniaturized Waveguide
Fourier Transform Spectrometer

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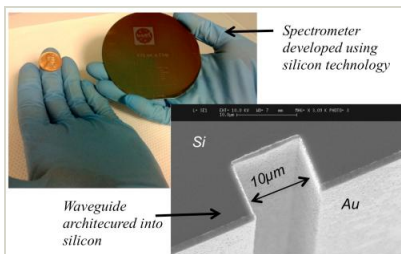
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Primary U.S. Work Locations

Maryland

Images



42.jpg

Project Image ROE FY12 CIF 214 PL
Miniaturized Waveguide Fourier
Transform Spectrometer
(<https://techport.nasa.gov/image/1265>)

Project Website:

<http://sciences.gsfc.nasa.gov/sed/>

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Innovation Fund: GSFC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

Peter M Hughes

Project Manager:

Brook Lakew

Principal Investigator:

Shahid Aslam

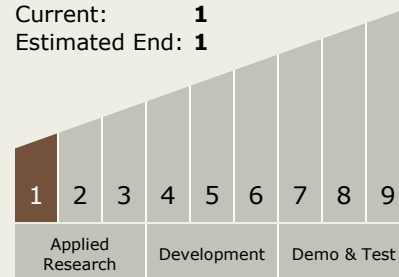
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Technology Maturity (TRL)

Start: **1**
Current: **1**
Estimated End: **1**



Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
 - └ TX09.2 Descent
 - └ TX09.2.1 Aerodynamic Decelerators